

REMARKS

Claims 15-35 are pending and stand rejected. Claim 40 has been amended to correct for informalities. Claims 20-21, 23-25, 28-29, 32, and 34-35 have also been amended. Support for the amended claims can be found in the specification and claims as originally filed. Claims 1-14 and 36-38 are withdrawn.

New claims 39-42

In response to the Examiner's Restriction Requirement of April 18, 2006, Applicants added new claims 39-42 in a response mailed June 19, 2006. The new claims were added because, as acknowledged by the Examiner, the claims of Groups I and II are related as a process of use and product. Applicants elected the product claims of Group II with the understanding that upon the finding of a Group II product claim allowable, the withdrawn process claims of Group I that depend from or otherwise include all limitations of such an allowable product claim will be rejoined with the pending claims under M.P.E.P. §821.04. As such, new claims 39-42 depend from claims 15 and 32 of elected Group II. Applicants request entry of new claims 39-42 by the Examiner.

With respect to all amendments and cancelled claims, Applicants have not dedicated or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections and/or objections made by the Patent Office. Applicants reserve the right to pursue prosecution of any presently excluded claim embodiments in future continuation and/or divisional applications.

A. 35 U.S.C. § 112, second paragraph, rejection

Claims 20-21, 23-25, 27-29 and 32-35 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner asserts in section 4a on page 2 of the Office Action that claims 27-29 are "vague and indefinite because of the phrase 'the anionic polysulfate'. [and]. It is unclear what is the antecedent basis for the phrases." However, claim 27 has been amended to recite a "synthetic organic polysulfate". Applicants respectfully request the withdrawal of this rejection.

The Examiner asserts in section 4b on page 2 of the Office Action that “[c]laims 20-21, and 23-25 are vague and indefinite because it is unclear what is the unit for the molecular weight.” However, amended claims 20-21 and 23-35 recite a unit for the molecular weight. Applicants respectfully request withdrawal of this rejection.

The Examiner asserts in section 4c on page 2 of the Office Action that “[c]laims 28, 29, and 32-35 are vague and indefinite because of the phrase ‘consisting essentially of’. The phrase ‘consisting essentially of’ is improper Markush language. It is suggest to amend to ‘consisting of’.” However, amended claims 28, 29, 32, and 34-35 recite the phrase “consisting of.” Applicants respectfully request withdrawal of this rejection.

B. 35 U.S.C. § 103(a) rejections

Claims 15-16 and 19-21 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fischer et al., Biochemistry, Vol. 28, 1989, pg. 5219-5226 (hereinafter “Fischer”), in view of Gelfand et al., U.S. Pat. No. 5,693,517 (hereinafter “Gelfand”) and the Stratagene Catalog, 1988 (hereinafter “Stratagene”).

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation in the reference or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. The teaching or suggestion to make the claimed combination must be found in the prior art, and not based on applicants’ disclosure. See *In re Vaack*, 947 F.2d 488 (Fed. Cir. 1991) (MPEP §2142). Applicants respectfully disagree and submit that the Examiner has failed to establish a *prima facie* case of obviousness because there is no motivation or suggestion for the Examiner’s proposed modification.

1. There is no suggestion or motivation to modify Fischer in view of Gelfand.

In section 6 on pages 3-4 of the Office Action, the Examiner asserts that

Fischer et al. also disclose that poly(L-malate) forms complexes with DNA polymerase α of high affinity, the inhibition of the DNA synthesis is competition with the substrate DNA at the presence of Klenow fragment (of *E. coli* DNA polymerase I) (See pg. 5225, column 1, first paragraph) [Emphasis added]

Based on this disclosure, the Examiner concludes in section 6 on page 4 of the Office Action that:

[o]ne of ordinary skill in the art would have been motivated to make the kit including the polyanion of Fischer et al. because the polyanion of Fischer et al. binds to a DNA polymerase reversibly in polynucleotide synthesis mixture, the Klenow fragment (of *E. coli* DNA polymerase I) and thermostable polymerase have the same function as taught by Gelfand et al. in that the thermostable DNA polymerase used in the method of Gelfand improves the method for one enzyme, one tube, coupled reverse transcription/amplification assay in which the method offers enhanced sensitivity, simplicity and specificity over current method (See column 3, lines 54-62). [Emphasis added]

Applicants respectfully disagree and submit that the Examiner's proposed motivation modify the references is contrary to Fischer's teachings. In fact, Fischer does not provide any motivation or suggestion to a person of ordinary skill to modify its teachings to reach the present invention. Fischer quite clearly discloses that its polyanion, β poly(L-malate), does not inhibit the Klenow fragment of *E. coli* DNA polymerase I. The relevant section found on page 5223, column 2, second paragraph from the bottom provides that the

[p]urified inhibitor and synthetic type β poly(L-malate) ... were tested for inhibition of a variety of highly purified polymerases: *Physarum polycephalum* DNA polymerase β -like, ... *Escherichia coli* DNA polymerase I (and Klenow fragment) ... None was inhibited except calf thymus DNA polymerase α ... [Emphasis added]

Since the polyanion fails to inhibit the Klenow fragment (of *E. coli* DNA polymerase I) and as asserted by the Examiner "the Klenow fragment (of *E. coli* DNA polymerase I) and thermostable polymerase have the same function," a person of ordinary skill would not be motivated to modify Fischer to reach the present invention. This teaching is further reinforced by the Abstract of the reference, which explicitly states that there was no inhibition of heterologous polymerases. Stratagene fails to cure the deficiencies of Fischer and Gelfand because it does not contain any motivation or suggestion to modify Fischer to reach the present invention. Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness and requests that the rejection of claims 15-16 and 19-21 under 35 U.S.C. § 103(a) be withdrawn.

2. Fischer teaches away from the present invention.

As the Examiner is aware, a “prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).” M.P.E.P. §2141.02 VI. Fischer teaches away from the present invention, which includes kits and compositions for polynucleotide synthesis requiring “a thermostable polymerase” and a “non-nucleic acid polyanionic polymer.” As discussed above, the Examiner asserts that “the Klenow fragment (of *E. coli* DNA polymerase I) and thermostable polymerase have the same function as taught by Gelfand.” However, Fischer discloses a polyanion that does not inhibit the Klenow fragment, also discussed above. When properly considered as a whole, Fischer clearly teach away from the presently claimed invention by instructing the skilled artisan not to use its polyanion to inhibit the Klenow fragment or, indeed, any other heterologous polymerases. Therefore, Fischer teaches away from the instant application. As such, Applicants request the withdrawal of the rejection of claims 15-16 and 19-21 under 35 U.S.C. § 103(a).

Claims 22-25 and 32-35 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fischer in view of Gelfand, Stratagene, and Mullis et al. U.S. Pat. No. 4,965,188 (hereinafter “Mullis”). Claims 17, 26 and 29-31 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fischer in view of Gelfand, Stratagene, and further in view of Shimada et al., *Nucleic acids research*, 1978, Vol. 5(9), pg. 3427 (hereinafter “Shimada”). Claim 18 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fischer in view of Gelfand, Stratagene, and Yang U.S. Pat. No. 6,274,353 (hereinafter “Yang”). Claims 27-28 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fischer, Gelfand, in view of Stratagene and Yoshitaka Aoi et al., *Journal of Medicine*, Vol. 12 (2&3), 1981, pg. 127-145 (hereinafter “Aoi”).

Applicants respectfully disagree. As discussed above, Fischer cannot be combined with Gelfand to form a *prima facie* case of obviousness. In addition, Fischer teaches away from the present invention. As such, Applicants request the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a).

CONCLUSION

In the event the Examiner has questions or comments and a telephone conversation would expedite a resolution, the Applicants invite the Examiner to contact the undersigned attorney at (415) 781-1989.

Respectfully submitted,

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